

### 3.11 HAZARDOUS MATERIALS AND WASTES

This section identifies the potential for impacts on areas that may be contaminated with hazardous materials and/or wastes for the No Project, Modal, and High-Speed Train (HST) Alternatives within the five project regions. According to Title 22 C.C.R. § 66261, waste is considered *hazardous* if it exhibits at least one of the four characteristics of ignitability, corrosivity, reactivity, or toxicity, or if it is a “listed waste.” Waste can be liquid, semi-solid, or gaseous. A potential hazardous waste impact is any potential conflict between an alignment, station, or airport facility and a known contaminated site, including crossings of a known contaminated site regardless of depth or height. The section focuses on contamination at sites on the National Priorities List (NPL)/Superfund, California’s high-priority Annual Work Plan (AWP) sites, and solid waste landfill (SWLF) sites.

#### 3.11.1 Regulatory Requirements and Methods of Evaluation

##### A. REGULATORY REQUIREMENTS

Hazardous materials and waste sites, including their use and remediation, are regulated by a number of federal laws, including the Resource Conservation and Recovery Act and the Comprehensive Environmental Response and Liability Act (CERCLA).

California’s hazardous materials regulations for the discovery of hazardous substances in the subsurface during construction, and the disposal of hazardous materials and cleanup of the hazards area incorporate most federal hazardous materials regulations. California’s statutes and regulations on hazardous materials are contained in Health and Safety Code Section 25130 *et seq.* and Title 22 C.C.R., which contains regulations adopted and administered by the California Department of Toxic Substances Control (DTSC). California regulations require that hazardous waste be managed according to applicable regulations that include worker operational safety procedures as identified in Title 8 C.C.R.; handling, storage, and exposure requirements; transportation and disposal requirements under a uniform hazardous waste manifest; and documentation procedures. In California, waste disposal facilities are classified in three categories: Class I, Class II, and Class III. A Class I disposal facility may accept federal and California hazardous waste. Class II and Class III facilities are only permitted to accept non-hazardous waste at facility specific acceptance threshold levels established by the Regional Water Quality Control Board (RWQCB), the permitting agency.

Additional federal and state regulations address worker exposure to safety and health hazards. The federal regulations are identified in Title 29 C.F.R., and the state regulations are in Title 8 C.C.R. The federal and California Occupational Safety and Health Administrations are the primary agencies responsible for enforcing these regulations.

##### B. METHOD OF EVALUATION OF IMPACTS

###### Identification of Hazardous Sites

Impacts on hazardous waste and/or material sites are an important consideration in the development of any major transportation improvement project. Remediation of such sites can dramatically increase the overall cost of a project. It is important to know early in the environmental analysis process where potential conflicts with these sites may occur, so that proper planning can be done to avoid these locations where possible. At this program level of analysis, available databases and information regarding the extent and nature of known hazardous materials/hazardous waste sites were reviewed. The following databases were consulted for information on potential hazardous materials risks.

- Federal National Priorities List/Superfund: This U.S. Environmental Protection Agency-developed database lists sites that pose an immediate public health hazard, and where an immediate response to the hazard is necessary. These listings are also found in the CERCLA database, also known as CERCLIS (Title 42 U.S.C. Chapter 103).
- State Priority List: Sites listed in this DTSC and RWQCB database are priority sites that were compiled from AWP and CAL-SITE databases, and sites where Preliminary Endangerment Assessments were conducted by the California Environmental Protection Agency (CEPA). The AWP database lists contaminated sites authorized for cleanup under the Bond Expenditure Plan developed by the California Department of Health Services as a site-specific expenditure plan to support appropriation of Hazardous Substance Cleanup Bond Act funds.
- State of California Solid Waste Landfills: The landfill sites listed in this database generally have been identified by the state as accepting solid wastes. This database includes open, closed, and inactive solid waste disposal facilities and transfer stations pursuant to the Solid Waste Management and Resource Recovery Act of 1972 and is maintained by the California Integrated Waste Management Board. The locations of the disposal facilities are primarily identified through permit applications and local enforcement agencies.

#### Methods of Analysis

The hazardous materials and wastes analysis for this Program EIR/EIS entailed a qualitative comparison of potential impacts on humans and the natural environment from exposure to hazardous materials or wastes that could result from proximity to or potential disturbance of sites containing these materials due to the No Project Alternative, the Modal Alternative, or the proposed HST Alternative. As described above, the analysis was based on the results of a database search (Environmental Data Resources 2003) for a study area that included the potential HST and Modal alignment corridors as well as proposed station locations and existing airports, as described below in Section 3.11.2. For this program-level broad analysis of potential impacts related to known priority hazards sites, the analysis was limited to hazardous materials sites and hazardous waste sites listed on the NPL, SPL, and SWLF databases. Other types of sites, such as sites with leaking underground storage tanks (LUSTs), would be considered in a subsequent phase of analysis, when site-specific analysis could be tied to more detailed alignment plans and profiles. No site-specific investigations were conducted for this analysis. Because of the large area covered, such analyses would not be cost-effective at this program-level analysis.

Potential impacts of the Modal and HST Alternatives were compared to conditions under the No Project Alternative. This assessment assumed that impacts related to hazardous materials/hazardous waste exposure could occur both during project construction and during project operation. It was based on the anticipated difference between No Project conditions and conditions under the Modal and HST Alternatives, in terms of the estimated area of the proposed improvements described in Chapter 2, *Alternatives*, which guided the identification of study area boundaries. Particular attention was paid to the extent of improvements that would occur outside existing rights-of-way. This analysis focused on the number of identified NPL, SPL, and SWLF sites within the study area. The program-level comparison of alternatives in this section assesses the relative degree to which known hazardous material and waste sites could constrain the alternatives by requiring costly disposal conditions and site cleanup and remediation. The number of sites gives some indication of an overall level of potential impact; more sites generally imply more potential impact. In this comparative analysis, each type of listing (NPL, SPL, and SWLF) was given equal weight. The program-level analysis does not include a detailed assessment of the nature or extent of any hazardous materials or wastes that may be present at identified sites, or the degree or specific nature of potential impacts under the various alternatives. The analysis and identification of potential hazards within the study area of

alternative corridors and alignments is useful in comparing alternatives and in identifying areas where avoidance may be possible in subsequent project-level review.

### 3.11.2 Affected Environment

#### A. STUDY AREA DEFINED

The Modal and HST Alternatives would result in substantial improvements to existing highway, aviation, and rail infrastructure within or adjacent to existing rights-of-way, in addition to the No Project transportation improvements. Therefore, the study area for the presence of hazardous materials and wastes includes existing transportation corridors, new HST corridors, and areas where passenger stations, airport expansions, and HST storage and maintenance facilities are being considered. The study area consisted of a 500 ft-wide (152 m-wide) (250 ft [76 m] on either side of the centerline or the facility) corridor along each rail and highway alignment identified for the Modal and HST Alternatives, and a 250-ft (76-m) radius around each airport and station facility. The study area boundaries were based on the distance within which a hazardous material or waste site could impact the possible location of a transportation improvement under the Modal or HST Alternative.

#### B. HAZARDOUS MATERIALS AND WASTE SITES BY REGION

Most of the hazardous materials and hazardous waste sites in the study area are relatively minor in extent and could be effectively mitigated through typical design and construction practices. Fewer major sites are known to be located in the vicinity of the proposed HST system alignment options than near existing highway alignments. Figure 3.11-1 shows the general locations of hazardous materials and hazardous waste sites identified through the database search. Additional information on the results of the database search is presented in Appendix 3.11-A and in the hazardous materials and hazardous wastes technical evaluation documents prepared for each region (Environmental Data Resources 2003).

### 3.11.3 Environmental Consequences and Comparison of Alternatives by Region

The potential severity of impacts from hazardous material or waste releases on the construction, operations, and maintenance of the proposed alternatives would depend on two factors: the nature and severity of contamination, and the construction and operations/maintenance activities that are likely to occur near the sites. The sites that pose the greatest concern are those with soil or groundwater contamination within or adjacent to the right-of-way, and those with groundwater contamination near areas where excavation down to groundwater would be necessary. For example, dewatering during excavation, trenching, or tunneling could alter local subsurface hydraulic gradients and draw groundwater contamination into excavated areas, trenches, or tunnels. In addition, fuel or chemical vapors could move through the vadose zone<sup>1</sup> to excavated areas (during construction), or to underground structures associated with the rail line such as vaults and manholes (during project operation).

#### A. EXISTING CONDITIONS COMPARED TO NO PROJECT ALTERNATIVE

The description of existing conditions in the study area was based on the known hazardous materials sites in the vicinity of the transportation infrastructure that exists in 2003. The No Project Alternative would incorporate local, state, and interstate transportation system improvements designated in existing plans and programs. This analysis assumed that no additional hazardous material or waste impacts would occur beyond those already addressed or those that would be addressed in the environmental documents for those improvement projects, and that any such impacts would largely

<sup>1</sup> The *vadose zone* comprises the region between the land surface and underlying groundwater aquifers and is the geologic zone through which pollutants and contaminants travel prior to entering groundwater (INEEL National Vadose Zone Project 2002).

be mitigated as part of those projects. For the purpose of this analysis, existing hazardous materials sites and hazardous waste sites identified in the available databases were treated as the baseline for comparison. While the future conditions for the No Project Alternative may result in some additional hazardous materials or waste impacts, they cannot be predicted or estimated for purposes of this program-level analysis. Similarly, it can be presumed that during the next 17 years some of the existing hazardous waste sites would be cleaned up or remediated as part of CEPA and RWQCB efforts.

Projects included under the No Project Alternative would be completed before construction of the Modal or HST Alternative. Construction associated with the No Project Alternative, compared to existing conditions, would vary depending on the region being analyzed. As identified in the hazardous materials and hazardous wastes technical evaluation documents prepared for each region (Environmental Data Resources 2003), in the Bay Area to Merced and the Los Angeles to San Diego via Inland Empire regions, the difference between existing conditions and the No Project Alternative would likely be greater than that between the No Project Alternative and the Modal or HST Alternative. The opposite is expected to be the case in the Sacramento to Bakersfield, Bakersfield to Los Angeles, and Los Angeles to San Diego via Orange County (LOSSAN) regions. This assumption and assessment of potential impacts is based on the estimated land area of the anticipated improvements and particularly on the amount of improvements that would likely occur outside of existing right-of-way. This assumption does not take into account the dollar value or complexity of the anticipated improvements.

#### B. NO PROJECT ALTERNATIVE COMPARED TO MODAL AND HIGH-SPEED TRAIN ALTERNATIVES

As described above, the No Project Alternative was used as a proxy for the baseline 2020 condition; the impact from any improvements associated with the Modal or HST Alternatives would be in addition to the impacts from the 2020 No Project Alternative. Table 3.11.3-1 compares the number of potential hazardous material and waste sites identified under the Modal and HST Alternatives, based on more detailed information presented in Appendix 3.11-A.<sup>2</sup>

As shown in Table 3.11.3-1, the number of sites identified for the HST Alternative varies widely depending on which alignment and station options are selected, ranging from 31 (less than under the Modal Alternative) to 75 (more than twice the number of sites identified under the Modal Alternative). The numbers of sites identified for the HST Alternative in the Bakersfield to Los Angeles; Los Angeles to San Diego via Inland Empire; and LOSSAN, including Los Angeles Union Station to Los Angeles International Airport segments are greater for any alignment option than those identified for the Modal Alternative. The Bay Area to Merced and Sacramento to Bakersfield segments are the only regions in which fewer sites were identified for at least one HST Alternative alignment than for the Modal Alternative, probably because the HST Alternative alignment, depending on alignment option, would follow a route with fewer SWLFs than the Modal Alternative.

Assuming that a larger number of identified hazardous materials and hazardous waste sites increases the potential for hazardous materials and hazardous waste impacts, under the HST Alternative the extent of cleanup or remediation required depends on the alignment and station options selected—and, depending on the route and station locations, the HST Alternative could have either a greater or a lesser potential for such impacts than the Modal Alternative. The extent of cleanup or remediation would translate into additional costs for construction, which could make a major difference in practicality or feasibility of an alternative. As described above, this analysis was limited to searches

<sup>2</sup> Appendix 3.11-A shows the number of identified NPL, SPL, and SWLF sites associated with the HST and Modal Alternatives. For the Modal Alternative, the number of sites includes those identified along the roadway alignments and around airport improvements. For the HST Alternative, the number of sites includes those identified along the alignment options, stations, and storage and maintenance facilities.

of standard databases listing known sites and did not incorporate information on other smaller sites that could contribute to risk on a local basis and would be studied at the project-specific level, if the proposed HST system is pursued. In addition, because neither site-specific investigations nor onsite fieldwork was performed, little or no information is available about the nature and severity of contamination at the sites identified, or the schedule or program for cleanup, if any, so the comparison above represents a "site-count" approximation and may not fully divulge potential risk levels. Finally, much of both the Modal and HST Alternative alignments would be within existing right-of-way, and these alignments have a land-use history under which additional unknown contamination (e.g., spills or accidental releases) would be a possibility. Consequently, although no unavoidable hazardous materials and hazardous waste impacts are expected under either the Modal Alternative or HST Alternative, hazardous materials and hazardous waste information available at the program level is not sufficient to distinguish the two alternatives.

**Table 3.11.3-1**  
**Potential Hazardous Material and Waste Sites Comparison Modal and High-Speed Train Alternatives**

| Region                                                                                                                                                                                                       | Modal Alternative | HST Alternative         |                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------|-----------------------|
|                                                                                                                                                                                                              |                   | Fewest Identified Sites | Most Identified Sites |
| Bay Area to Merced                                                                                                                                                                                           | 5                 | 3                       | 11                    |
| Sacramento to Bakersfield                                                                                                                                                                                    | 16                | 8                       | 24                    |
| Bakersfield to Los Angeles                                                                                                                                                                                   | 8                 | 13                      | 23                    |
| Los Angeles to San Diego via Inland Empire                                                                                                                                                                   | 4                 | 7                       | 14                    |
| Los Angeles to San Diego via Orange County                                                                                                                                                                   | 2                 | 5                       | 5                     |
| Total Sites*                                                                                                                                                                                                 | 33                | 31                      | 72                    |
| * Totals presented do not include the identified LOSSAN sites because this segment is not a part of the HST Alternative defined for the representative demand.<br>Source: Environmental Data Resources 2003. |                   |                         |                       |

### 3.11.4 Mitigation Strategies

Mitigation for impacts related to hazardous materials and/or hazardous wastes depends on detailed site-specific investigations (environmental site assessments) that have not been performed at this programmatic level of analysis. More detailed analysis and specific mitigation measures would be included in subsequent project-level analysis. Mitigation strategies could include realignment of the HST corridor or relocation of associated features such as stations to avoid an identified site, and remediation of identified hazardous material/waste contamination.

### 3.11.5 Subsequent Analysis

Specific studies that would be required for project-level environmental documentation include environmental site assessments, which would study the identified hazardous materials and hazardous waste sites in more detail to evaluate the nature and level of contamination and allow thorough analysis of potential impacts in accordance with applicable regulatory requirements. Tasks to be performed as part of the project-level environmental site assessment would be expected to include the following.

- Environmental database search. This would include additional databases (e.g., Cortese list, LUST list, other sites, etc.).
- Review of historical land use for all alignment options or corridor alternatives carried forward for detailed analysis.

- Site reconnaissance.
- Review of agency records and agency consultation.
- Data analysis and report preparation.